

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Part 2 of the Commission's	)	
Rules to Allocate Spectrum Below 3 GHz	)	
For Mobile and Fixed Services to Support the	)	ET Docket No. 00-258
Introduction of New Advanced Wireless	)	
Services, including Third Generation	)	
Wireless Systems	)	
	)	
Petition for Rulemaking of the Cellular	)	
Telecommunications Industry Association	)	RM-9920
Concerning Implementation of WRC-2000:	)	
Review of Spectrum and Regulatory	)	
Requirements for IMT-2000	)	
	)	
Amendment of the U.S. Table of	)	
Frequency Allocations to Designate the	)	RM-9911
2500-2520/2670-2690 MHz Frequency	)	
Bands for the Mobile Satellite Service	)	

**REPLY OF GLOBALSTAR, L.P. TO OPPOSITIONS TO THE PETITION FOR  
RECONSIDERATION OF THE SATELLITE INDUSTRY ASSOCIATION**

Pursuant to Section 1.429(g) of the Commission's Rules,<sup>1</sup> Globalstar, L.P., operator of the Globalstar™ System, submits this reply to the oppositions to the petition for reconsideration of the Commission's *Order* in the above-captioned proceeding filed by the Satellite Industry Association ("*SIA Petition*").<sup>2</sup> As described in greater detail below, the opponents of the *SIA Petition* have failed to

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<sup>1</sup> 47 C.F.R. § 1.429(g).

<sup>2</sup> Amendment of the U.S. Table of Frequency Allocations to Designate the 2500-2520/2670-2690 MHz Frequency Bands for the Mobile Satellite Service (Order), RM-9920, FCC 00-455 (rel. Jan. 5, 2001) ("*Order*"). The *Order* was published at 66 Fed. Reg. 7438 (Jan. 23, 2001). The *SIA Petition* for Reconsideration was filed on February 22, 2001.

demonstrate that sharing between the mobile satellite service ("MSS") and fixed services<sup>3</sup> is not feasible in the 2500-2520 MHz and 2670-2690 MHz bands.

Thus, these bands should be allocated for MSS use.

## **I. Introduction**

In the *Order*, the Commission ruled that it would not allocate the 2500-2520 MHz and 2670-2690 MHz bands for MSS use for third generation wireless services ("3G"). The Commission based this decision on two factors: (1) the apparent infeasibility of sharing between fixed services and the MSS; and (2) the putative sufficiency of the supply of MSS spectrum.

SIA, in its Petition for Reconsideration, demonstrated that sharing between fixed services and the MSS was in fact possible, and that MSS providers would need access to additional spectrum if they were to offer third generation wireless services to their customers. With regard to sharing, SIA pointed out that interference between MMDS/ITFS and the MSS was addressed in TIA joint working group TR14.11/TR34.2, which developed Telecommunications Systems Bulletin 86 ("TSB 86")<sup>4</sup> on sharing between the MSS and fixed services in the 2 GHz bands. Such interference was also addressed in the ITU's Radio Regulations, which limit power flux density at the surface of the earth to protect fixed service systems operating in the 2500-2520 MHz and 2670-2690 MHz bands. SIA further demonstrated that interference

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<sup>3</sup> The specific fixed services at issue are the Instructional Television Fixed Service ("ITFS") and the Multichannel Multipoint Distribution Service ("MMDS"). These fixed services are also referred to in this pleading as the terrestrial services.

<sup>4</sup> TSB 86 is entitled "Criteria and Methodology to Assess Interference Between Systems in the Fixed Service and the Mobile Satellite Service in the Band 2165-2200 MHz."

between the MSS and the terrestrial services would be minimized by the fact that the services would by and large be geographically separated, with MSS operating in rural areas, and MMDS/ITFS operating in urban areas. Finally, SIA showed that each LEO MSS provider currently has access to only 36.65 MHz of spectrum, which is insufficient to offer the types of data intensive, broadband services that terrestrial 3G providers will soon be offering.

## **II. Sharing Between MSS and Fixed Services is Possible in the 2500-2520 MHz and 2670-2690 MHz Bands**

In their oppositions, fixed services providers made two broad arguments against MSS and fixed services providers sharing spectrum at 2500-2520 MHz and 2670-2690 MHz. First, they argued that because TSB 86 addresses the 2165-2200 MHz frequency band, the publication does not, as SIA represented, demonstrate that sharing is possible between MSS and terrestrial services at 2500-2520 MHz and 2670-2690 MHz. Second, they argued that despite SIA's claim to the contrary, there are no power flux density limits that allow sharing between the MSS and fixed services in the 2500-2520 MHz band. Neither of these claims has merit.

### **A. The Scope of TSB 86**

Contrary to the contention of a number of ITFS/MMDS interests,<sup>5</sup> the frequency sharing techniques discussed in TSB 86 *are* applicable to the 2500-2520 MHz and 2670-2690 MHz bands. TSB 86 was developed to address

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<sup>5</sup> IPWireless, Inc. Opposition at 4-5; National ITFS Association Opposition at 4; The Wireless Communications Association International, Inc. ("WCA") Opposition at 9-11; WorldCom Opposition at 4-5; Sprint Opposition at 5; Network for Instructional TV, Inc. Opposition at 4.

generic frequency sharing problems that might exist between MSS and fixed services when sharing an MSS downlink. Although the bulletin refers specifically to the 2165-2200 MHz frequency band, the considerations and techniques it presents are readily applicable to similar frequency sharing situations in other bands below 3 GHz, including 2500-2520 MHz and 2670-2690 MHz. Indeed, the starting point for the development of the criteria and interference assessment methodology given in TSB 86 was Recommendation ITU-R M.1142-1—which addressed the entire 1 to 3 GHz band—and the studies associated with the development of that Recommendation.<sup>6</sup>

Further, Section 5 of TSB 86 provides an approach for assessing interference from fixed service transmitters into MSS user terminal receivers that is fully applicable to the 2500-2520 MHz band. Briefly stated, contours of potential interference would be determined for the areas around fixed service transmitters and operation of MSS user terminal receivers within these contours would be avoided. While complete development of this methodology was not permitted due to time constraints, there is no technical reason why the technique could not be utilized to allow the frequency sharing suggested by SIA. A similar methodology could be used to assess interference from MSS user terminal transmitters into fixed service receivers in the 2670-2690 MHz band. Contours could be constructed to indicate where MSS terminal use should be avoided.

## **B. Power Flux Density Limits**

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<sup>6</sup> See Recommendation ITU-R M.1141. "Sharing in the 1-3 GHz Frequency Range between Non-Geostationary Space Stations Operating in the Mobile Satellite Service and Stations in the Fixed Service," International Telecommunications Union, Radiocommunication Bureau, Geneva (1998).

The WCA is incorrect in its contention that there are no power flux density limits that allow sharing between the MSS and the fixed services in the 2500-2520 MHz band.<sup>7</sup> Preliminarily, the 2500-2520 MHz and 2670-2690 MHz bands are allocated to MSS as of January 1, 2005, in accordance with Article S5 of the Radio Regulations of the International Telecommunications Union. The 2500-2520 MHz band is allocated as a downlink (space-to-earth) and the 2670-2690 MHz band is allocated as an uplink (earth-to-space). With reference to the downlink allocation, power flux density values used to trigger coordination between satellite systems and terrestrial fixed services are given in Appendix S5 of the Radio Regulations, which the United States adheres to as a treaty obligation.

Because these values represent frequency coordination triggers, MSS systems keeping their emissions below these values will not be required to coordinate with terrestrial systems. Therefore, frequency sharing between downlinks in MSS and fixed services (which include MMDS and ITFS, according to the ITU) is, by regulation, possible. Even if the mobile satellite systems in question are not licensed to operate in the United States, they will be allowed to illuminate this country with emissions that do not violate the power flux density coordination trigger values.<sup>8</sup>

### **III. Conclusion**

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<sup>7</sup> WCA Opposition at 12.

<sup>8</sup> Further information on the development of these power flux density levels and their application is given in Recommendation ITU-R M.1141.

In sum, neither of the arguments made by the opponents of the *SIA Petition* survive technical scrutiny. The opponents of the *SIA Petition* have failed to refute SIA's contention that sharing between the MSS and the fixed services is feasible in the 2500-2520 MHz and 2670-2690 MHz bands. The Commission should grant the *SIA Petition* and allocate these bands for MSS use for third generation wireless services.

Respectfully submitted,  
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## **CERTIFICATE OF SERVICE**

I, Michaelleen Williams, hereby certify that true and correct copies of the preceding Reply of Globalstar, L.P. was served this April 2, 2001 via the FCC's ECFS system or by first class mail upon the following:

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